

**IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA
WINSTON-SALEM DIVISION**

BRANCH BANKING AND TRUST
COMPANY,

Plaintiff,

v.

HITACHI VANTARA CORPORATION,

Defendant.

Civil Action No.: 1:19-CV-1168

JURY TRIAL DEMANDED

AMENDED COMPLAINT

Plaintiff Branch Banking and Trust Company, by its undersigned counsel, hereby files this Amended Complaint against Defendant Hitachi Vantara Corporation and alleges and states as follows.

Introduction

This case arises out of Defendant Hitachi Vantara, LLC's (formerly known as Hitachi Vantara Corporation and Hitachi Data Systems Corporation) (hereinafter, "Hitachi") breach of contract, unfair and deceptive trade practices, and gross professional negligence in the sale, installation, and maintenance of critical computer hardware in Plaintiff Branch Banking and Trust Company's (now known

as Truist Bank) (hereinafter, “BB&T”) data center located in Zebulon, North Carolina (hereinafter, the “Zebulon Data Center” or “ZDC”). As a direct result of Hitachi’s actions and inactions, the ZDC suffered a catastrophic outage on February 22, 2018, which resulted in the complete shutdown of virtually all of BB&T’s online banking platform, including but not limited to online banking, mobile banking, automated phone banking, automated teller machines (“ATMs”), and wire transfer services, for approximately fifteen hours. In addition, BB&T’s branch banking operations were adversely affected, as BB&T lost the ability to access centralized customer information. Consequently, during the outage period, millions of BB&T customers were impacted and lost the ability to access their accounts, deposit, withdraw or transfer money, pay bills, or conduct myriad other types of transactions. As a direct and proximate result of Hitachi’s conduct, BB&T incurred substantial damages from lost fee revenue, expenses incurred to compensate affected customers, and numerous other categories of harm.

Parties

1. BB&T is a North Carolina-chartered bank founded in 1872, with its principal place of business in Winston-Salem, North Carolina.
2. Hitachi is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business in Santa Clara, California. As

part of its core business, Hitachi sells modular high-end computer data storage systems, software and services.

Jurisdiction and Venue

3. This Court has original jurisdiction over this matter pursuant to 28 U.S.C. § 1332(a), in that the parties are citizens of different states, and the amount in controversy exceeds \$75,000, exclusive of interest and costs.

4. This Court may exercise personal jurisdiction over Hitachi, because Hitachi conducts substantial business within the State of North Carolina, and the vast majority of the facts and occurrences giving rise to the Complaint took place in the State of North Carolina.

5. Venue is appropriate in this District pursuant to 28 U.S.C. § 1391(b)(1). In addition, venue is appropriate because the parties have contractually consented to venue in the State of North Carolina and to the non-exclusive jurisdiction of the United States District Court for the Middle District of North Carolina.

Factual Allegations Common to All Counts

6. BB&T operates more than 1,700 financial centers in fifteen states and the District of Columbia. Building on a long tradition of excellence in community banking, BB&T offers a wide range of financial services including, but not limited to, retail and commercial banking, securities brokerage services, wealth

management, asset management, mortgage products, corporate banking, and insurance.

7. BB&T provides data and technology services to other entities within the BB&T corporate hierarchy, and in addition utilizes its data centers to facilitate numerous types of banking transactions for its millions of customers. Many of the applications necessary to facilitate these banking transactions run on computer equipment located within the ZDC. The ZDC is a state-of-the-art data center BB&T constructed from 2014-2017. BB&T also maintains other data centers in Wilson, North Carolina and Charlotte, North Carolina.

8. Hitachi, through its predecessor entities, had been a vendor to BB&T for sophisticated computer hardware, software, and related maintenance services for many years prior to the construction of the ZDC. On or about August 18, 2014, BB&T and Hitachi entered into a Master Agreement for the purchase of certain equipment (hereinafter, the “Storage Disk Array” or “G1000”) and professional services, and the licensing of certain software for the ZDC.

9. BB&T had utilized a Hitachi single Storage Disk Array configuration in its other data centers for many years, so the system architecture of the ZDC was neither unusual nor untested.

10. The Storage Disk Array was connected to four mainframe computer systems in the ZDC. It essentially controlled the flow of data from the BB&T

network and ensured that transactions across BB&T's numerous banking channels were recorded consistently and accurately.

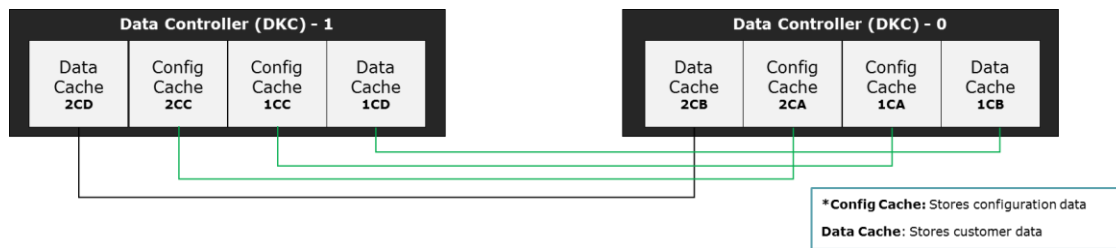
11. The Storage Disk Array contained two data controllers (the "Data Controllers"). Each Data Controller was linked to a large number of disk drives that provided a massive amount of long-term data storage.

12. To optimize throughput from the mainframes to the disk drives, memory cards are used as cache. Cache memory is a temporary, fast-access staging area for data which is eventually copied into the slower access disk drives. The Data Controllers are responsible for handling this staging correctly.

13. The Data Controllers worked as a "mirrored" pair. To transmit data from one Data Controller to the other, and thereby maintain mirrored copies of data transactions, the Data Controllers were connected to each other via fiber optic cables.

14. As is shown in the diagram below, data cache cards 1CB and 1CD constituted one mirrored pair, while data cache cards 2CB and 2CD constituted the second mirrored pair. If one mirrored pair were to fail, the second mirrored pair would take over the workload for the Storage Disk Array until the necessary repairs could be made.¹

¹ The configuration cache cards shown in the diagram stored configuration data and not customer data. While they too worked as a mirrored pair to provide redundancy, they are not at issue in this case.



15. Data is transmitted to and from the Data Controllers via sixteen (16) fiber optic cables. Like the rest of the Storage Disk Array, these fiber optic cables were provided, installed and maintained by Hitachi.

16. The fiber optic cables were critical to the stability, reliability, and successful operation of the Storage Disk Array. If a fiber optic cable was damaged or compromised, data either would not flow through the fiber optic cable or would flow at a decreased or compromised rate.

17. Fiber optic cables are constructed of glass, are fragile, and easily can be damaged through misuse, mishandling, improper installation, or improper storage. Specifically, fiber optic cables can suffer what is known as fatigue damage, which is defined as the slow extension of a flaw over time due to the application of a tensile stress. The implication of fatigue is that a fiber optic cable may degrade in reliability and capacity over time if placed under stress. This stress could be in the form of a pure tensile stress, bending, torsional stress, or any combination thereof.

18. In other words, undue physical stress on a fiber optic cable can degrade it physically until it eventually fails. It is possible that a degraded cable may provide some data throughput, albeit with data transmission errors. Eventually, however, the error rate will rise to a level that triggers a shutdown because the automated monitoring system within the Storage Disk Array regards the cable and/or memory card as unreliable.

19. As a general principle, fiber optic cables should not be bent or crimped at a severe angle. Rather, they should be looped with a minimum bend radius not to exceed certain industry-recognized thresholds. Handling fiber optic cables in this manner is particularly important when there is slack in the cables.

20. Both Data Controllers must “agree” on data transactions processed through the G1000. If the two Data Controllers can no longer maintain agreement as to the incoming data, they will shut down as a preventative measure.

21. If the data transmission error rate reaches a certain threshold, the fiber optic cable and/or memory card is regarded as unreliable, and that component of the Data Controller will be shut down. Although the Data Controllers can operate in a degraded state when one mirrored memory cache card pairing fails, if both fail then both Data Controllers will shut down, which then effectively shuts down the mainframes that rely on them.

22. The entire Storage Disk Array was a closed, “black box” system in which all of the hardware and software was designed, manufactured, assembled, installed and maintained by Hitachi. Even though the hardware was located within a data room inside the highly secure ZDC, BB&T had no access to internal components of the Storage Disk Array, including the ability to visually inspect the fiber optic cables that connected the Data Controllers.

23. BB&T was not allowed to perform any maintenance, routine or otherwise, on the Storage Disk Array or any of its component parts. If there was any problem or issue with any aspect of the Hitachi hardware or software in the Storage Disk Array, a Hitachi engineer would be dispatched by Hitachi to the ZDC to perform all required maintenance.

24. The Storage Disk Array was represented by Hitachi to be a unified data storage system that provides high performance, high availability, and reliability. Hitachi represented in publicly available marketing materials for the G1000 that “[i]f one path fails, Dynamic Link Manager automatically switches the I/O to an alternate path, ensuring that an active route to data is always available. . . . Dynamic Link Manager offers the following benefits: Provides a high level of data availability through automatic path failover and failback, ensuring continuous access to application data, improved application performance, and reduced risk of financial loss due to failures of critical applications.”

25. Hitachi warranted to BB&T that its hardware and software would be free from defects and would perform as designed and intended. Specifically, Section 5.1 of the Master Agreement, entitled “Performance,” states:

From and after the later of the Effective Date or the Acceptance Date:
(i) all non-software Deliverables furnished under this Agreement shall be free from defects in workmanship and materials and shall operate and conform to this Agreement, its applicable Published Specifications, general industry standards and to all Applicable Laws and Standards,
(ii) all Software and/or Application(s) furnished under this Agreement (including all media upon which it may be stored) shall operate and conform to this Agreement, its applicable Published Specifications, general industry standards and to all Applicable Laws and Standard and shall be free from significant programming errors and defects for a period of eighteen (18)) months following Acceptance, unless otherwise stated in the applicable Schedule, and; (iii) all Services will be performed in a prompt, diligent, professional and workmanlike manner by competent professionals who possess the proper degree of skill, care, training, experience, and background that is required by current good and sound professional procedures and practices in accordance with industry standards.

26. The continuous and uninterrupted operation of the Storage Disk Array was critical to the functioning of the ZDC and BB&T’s entire banking platform. It was essential that the Storage Disk Array provide the promised high performance, high availability, and reliability so that if one of the data paths failed for any reason, an alternative data path would be available until Hitachi could perform the necessary maintenance to repair or replace any failed part.

27. As part of the Master Agreement, BB&T also licensed Hitachi’s proprietary Hi-Track remote diagnostic and monitoring system (the “Hi-Track

System”). This remote monitoring system was designed to continuously monitor the performance and operation of the Storage Disk Array, including the Data Controllers. If the Hi-Track System detected a problem such as a failing part, it would generate an alert that was sent to Hitachi.

28. The Hi-Track alerts would include numerous data points, including the site ID, the site name, the system type, the system serial number, the log number and index, the date and time of the alert, the reference code, the error section, the error detail, the error location, the alert level, and the status.

29. Hi-Track alerts were coded as either “Critical,” “High,” “Moderate,” or “Service.” The proper coding of a Hi-Track alert was important, as it signaled the criticality of the event and determined how quickly Hitachi was required to provide service and replacement parts.

30. The Master Agreement obligated Hitachi to provide “Standard” warranty services on the Storage Disk Array for a period of thirty-six (36) months following BB&T’s “Acceptance” of the Storage Disk Array.

31. Addendum #2 to the Master Agreement specifies Equipment Purchase Terms and Conditions. Section 16 of that Addendum, entitled “Response Time,” states:

Remedial Maintenance shall be provided within the applicable response time after notification to [Hitachi] that an item of Equipment is not functioning properly. When Remedial Maintenance has commenced,

[Hitachi] shall continue its efforts, notwithstanding any expiration of the Operating Hours, until such time as the item of Equipment is made to function properly. Required response times are set forth in the applicable Schedule.

32. “Remedial Maintenance” is defined in Addendum #2 to the Master Agreement as “those Services to correct any Malfunction affecting an item of Equipment, including fixes or bug corrections, providing work-arounds and repairs for Malfunctions, the development of Enhancements, and the replacement of Equipment that has experienced a Malfunction that cannot otherwise be corrected. Remedial Maintenance Services shall be deemed to constitute Services for purposes of this Agreement.”

33. “Malfunction” is defined in Addendum #2 to the Master Agreement as “the failure of any Deliverables, or component thereof, to comply with its applicable Specifications, the terms of any Schedule or purchase order, the warranties or requirements set forth herein or other applicable warranties to be free from programming errors or defects in workmanship or materials which adversely affect the features, functions, use or operation of such Deliverables.”

34. Attachment C to the Master Agreement specified the response times and other obligations that Hitachi was contractually obligated to meet when responding to Hi-Track alerts and performing Remedial Maintenance. Specifically, maintenance was to be available seven days per week and twenty-four hours per day;

the targeted response time was four hours; and replacement parts were to be made available by the next business day, or “ASAP [4 Hrs]” for a critical Hi-Track alert.

Problems Plagued the Storage Disk Array from the Outset.

35. Hitachi began installation of the G1000 in the ZDC in early 2017. Hitachi performed the entire installation of all of the hardware and software components of the G1000.

36. Hitachi was grossly negligent in installing the fiber optic cables in the Data Controllers in the G1000, in that it displayed a complete and utter disregard for all applicable industry standards for handling and installing fiber optic cables. Hitachi acted recklessly, wantonly, and with intentional indifference to the consequences of its actions.

37. Specifically, Hitachi did not properly loop and secure the excessive slack in the fiber optic cables, but instead recklessly wadded up the slack in the cables and both (1) shoved it into a narrow channel that runs internally within the Data Controller cabinets and (2) shoved it onto the floor at the back of, and underneath, the Data Controller cabinets. This caused excessive bending and crimping in the fiber optic cables, which were hidden from BB&T’s view once the plate securing the cables was installed by Hitachi on the Data Controller cabinets.

38. Hitachi performed completely insufficient performance testing when it installed and commissioned the Storage Disk Array. It provided no documentation

of any such testing to BB&T to validate the proper installation of the Storage Disk Array, nor did Hitachi certify to BB&T that the Storage Disk Array was installed properly and ready for use. After the catastrophic outage occurred at the ZDC in February 2018, a representative of Hitachi admitted to BB&T that the installation testing it performed was at best informal.

39. Had Hitachi properly inspected, tested, and validated the installation of the Storage Disk Array, it would have discovered that the fiber optic cables were installed improperly in the Data Controller cabinets, and it would have been able to replace those fiber optic cables before a critical outage occurred.

40. After Hitachi completed the installation of the Storage Disk Array, beginning in approximately June 2017 BB&T began application data replication from the Wilson, North Carolina data center to the ZDC, and BB&T began writing data to the disk drives in the ZDC.

41. Over time, BB&T gradually added various applications to the Storage Disk Array, which increased the amount of data that the Storage Disk Array processed and stored.

42. Notwithstanding the fact that the Storage Disk Array was a brand new and supposedly state-of-the-art system, BB&T began experiencing problems with the Storage Disk Array almost immediately after it was brought online. From June 2017 to February 2018, nine separate hardware failures occurred which triggered Hi-

Track alerts. This failure rate was extraordinary based on BB&T's experience with similar data management systems.

43. On or about May 31, 2017, the Hi-Track System detected a cache error on a memory card within the Storage Disk Array and issued an alert. Hitachi responded on June 1, 2017, by replacing the memory card.

44. On June 2, 2017, the Hi-Track System detected another cache error on a memory card within the Storage Disk Array and issued an alert. Hitachi responded on July 18, 2017, by replacing the memory card.

45. On September 27, 2017, the Hi-Track System detected another cache error on a memory card problem within the Storage Disk Array and issued an alert. On October 4, 2017, Hitachi again responded by replacing the memory card.

46. On September 30, 2017, the Hi-Track System detected a "Logical path blockade" on the data pathway between Cache-1CA and Cache-1CC within the Storage Disk Array, and it issued an alert and logged a corresponding service request to Hitachi.

47. Unbeknownst to BB&T, this Logical path blockade created what is known as a single point of failure, meaning that the redundancy feature in the G1000 – the feature designed by Hitachi specifically to prevent a complete shutdown – had been eliminated, leaving the system vulnerable should the other configuration cache

memory pairing experience any type of major error. Hitachi attempted to resolve resolved the Logical path blockade within twelve hours by replacing a cache board.

48. On or about October 12, 2017, the Hi-Track System detected a “Logical path blockade” on the data pathway between Cache-2CB and Cache-2CD within the Storage Disk Array, and it issued an alert and logged two separate corresponding service requests to Hitachi. Hitachi responded on October 17, 2017, by replacing a cache board.

Hitachi Discovers That the Fiber Optic Cables Connecting the Data Controllers Were Installed Improperly, Intentionally Ignores the Problem, and Conceals It From BB&T.

49. On or about October 27, 2017, the Hi-Track System detected a “Logical path blockade” on the data pathway between Cache-1CA and Cache-1CC within the Data Controllers, and it issued an alert and logged a corresponding service request to Hitachi. On or about October 30, 2017, Hitachi determined that the problem had been caused by a single failed “x-path” fiber optic cable.

50. On or about November 1, 2017, Hitachi deployed an engineer named Paul McDowell to the ZDC to fix the problem. While replacing the single failed cable, Mr. McDowell observed that the fiber optic cables attached to the Data Controllers were not installed properly. Specifically, he noticed that the cables were tangled together in a jumbled mess, and upon information and belief the fiber optic cable he removed and replaced had been improperly crimped.

51. Mr. McDowell took a photograph of the fiber optic cables in their jumbled condition. Upon information and belief, he immediately texted the photograph to his superior at Hitachi, Todd Schiff, and alerted him that the tangled fiber optic cables might be the source of the problems that the Storage Disk Array had been experiencing since it was installed.

52. After the February 2018 outage, Mr. McDowell informed BB&T of the existence of this photograph, as well as the fact that he had immediately alerted Mr. Schiff to the tangled condition of the fiber optic cables attached to the Data Controllers.

53. Upon receipt of the photograph from Mr. McDowell, neither Mr. Schiff nor anyone else at Hitachi (a) took any action whatsoever to replace the tangled fiber optic cables in the Data Controllers, or (b) alerted BB&T to the fact that critical components of the Storage Disk Array had been installed improperly. Hitachi's disregard of Mr. McDowell's express, unequivocal warning reflected a complete and conscious disregard for the consequences of its inactions.

54. It would have been simple for Mr. Schiff to instruct Mr. McDowell to replace all sixteen of the fiber optic cables, not just the one that had failed, and to ensure that they were installed properly. Instead, Mr. Schiff intentionally turned a blind eye to the problem.

55. Shortly thereafter, at a weekly operations meeting attended by several BB&T and Hitachi staff, Scott Shumate of BB&T asked Mr. Schiff why it was necessary to replace one of the fiber optic cables. Mr. Schiff responded that everything was fine. Having seen the photo taken by Mr. McDowell, Mr. Schiff's response to Mr. Shumate was patently false – particularly because Hitachi knew by this time that many of the fiber-optic cables it installed in its customers' G1000 units around the world had been manufactured with a known defect (as alleged in more detail below). Hitachi's reckless indifference and deception would prove to have severe consequences just a little over three months later.

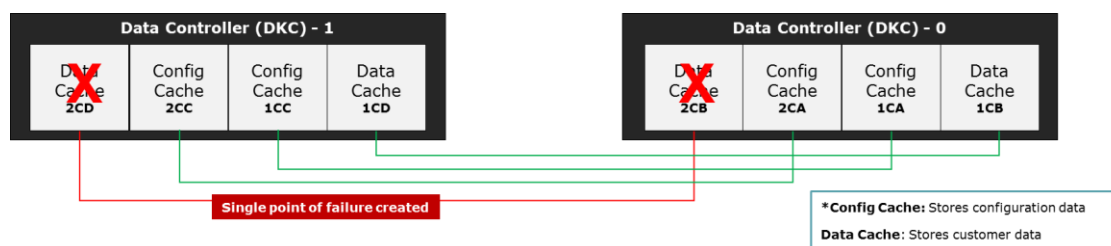
The G1000 Again Develops a Single Point of Failure, and Hitachi Ignores It.

56. On February 12, 2018, at approximately 6:37 p.m., the Hi-Track System issued an alert regarding a "Logical path blockade" on cache 2CD. This error message indicated the data processing path between data cache cards 2CD and 2CB in the Data Controllers was not transmitting data. Data transmission error thresholds had been surpassed, and the G1000 shut down the data processing path.

57. The G1000 was now operating in a degraded state, inasmuch as the memory in one of the mirrored pairs of data cache cards was not accessible.

58. Once again, unbeknownst to BB&T, this failure eliminated the redundancy safeguard in the Storage Disk Array and created a single point of failure,

as the 2CD and 2CB cache cards were inaccessible. This is illustrated in the diagram below:



59. Notwithstanding the fact that this Logical path blockade left the G1000 vulnerable to a complete outage if the 1CD-1CB data cache link should also fail, the Hi-Track System coded the alert as only “Moderate”.

60. This coding was clearly inconsistent with Addendum #5 to the Master Agreement (“Severity Level Classification & Description”), which at a minimum required such an alert to be classified as “High”.

61. Hitachi never alerted BB&T to the degraded state of the G1000 or to the fact that it now was operating with a single point of failure.

62. Pursuant to the terms of the Master Agreement, Hitachi was obligated to have an engineer on site at the ZDC with the appropriate parts to fix the problem within four hours, even for a “Moderate” alert.

63. Yet, upon information and belief, it was not until the following morning, February 13, 2017, that Hitachi opened a ticket to review the Alert and create an action plan. Hitachi assigned the task to Hitachi engineer Paul O’Hegyi.

That same morning, Mr. O’Hegyi requested a “data dump” from the G1000 to analyze so he could create an action plan.

64. Inexplicably, neither Mr. O’Hegyi nor anyone else from Hitachi went to the ZDC to fix the Logical path blockade – not within the contractually required four-hour time period, and not within the next ten days. Hitachi willfully and wantonly disregarded the Hi-Track System alert on February 12, 2018 and for over a week thereafter.

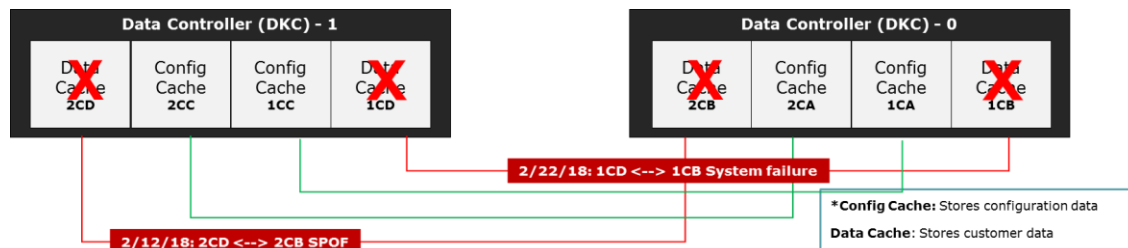
65. Upon information and belief, as of February 12, 2018, Mr. O’Hegyi had dozens of open cases in his work queue and inexplicably failed to respond to this critical ZDC alert. His gross negligence was facilitated and enabled by Hitachi’s separate gross negligence of failing to ensure that its engineers were completing high priority repairs on a timely basis. Upon information and belief, Hitachi knew at least as early as February 14, 2018 that Mr. O’Hegyi had dozens of open cases in his work queue and failed to take steps to ensure that he addressed the critical failure that had occurred at the ZDC two days earlier.

66. A similar Logical path blockade had occurred in the Storage Disk Array on September 30, 2017, and Hitachi addressed that failure in approximately twelve hours (notably, still not within the contractually mandated response time). Had Hitachi reacted similarly when it received the Hi-Track alert on February 12, 2018, the outage that was soon to occur at the ZDC could have been prevented.

The Storage Disk Array Completely Fails, Shutting Down the ZDC.

67. On February 22, 2017, at approximately 4:00 p.m., the second pair of linked data cache cards (1CD-1CB) – the only functioning pair of data cache cards that remained following Hitachi’s willful and wanton indifference to the critical Logical path blockade that had occurred in the Storage Disk Array ten days earlier – failed.

68. At this point in time, there were no remaining data cache processing paths available, so all processing stopped. As illustrated in the diagram below, this led to a complete system shutdown of the Storage Disk Array and the mainframes that relied upon it.



69. In effect, this failure shut down the ZDC. Virtually every aspect of BB&T’s electronic banking platform (including but not limited to online banking, mobile banking, ATMs, wire transfers, and automated phone banking) across its geographic footprint ceased to function. In addition, branch banking operations were similarly impacted, because BB&T lost the ability to access centralized customer information.

70. Approximately two minutes and eight seconds passed between the time that the Storage Disk Array failed until the mainframes stopped all data processing. During that time period, all data regarding electronic customer transactions for the entire bank was lost because it was never written or transferred from the temporary cache memory onto the permanent storage in the disk drives. This resulted in widespread issues of lost or corrupted data for a massive number of transactions – potentially tens, if not hundreds, of thousands of them.

71. During the outage period, millions of BB&T customers were impacted and lost the ability to access their accounts, deposit, withdraw or transfer money, pay bills, or conduct myriad other types of transactions.

72. Once again, the Hi-Track System generated an alert, reporting a loss of access to all attached host systems. This time the alert was escalated immediately within Hitachi as a Severity 1 (“Critical”) failure.

73. Hitachi dispatched Mr. O’Hegyi – the same person who ignored and/or failed to respond to the Hi-Track alert ten days earlier – to the ZDC to investigate the outage.

74. At first Hitachi attempted to replace various memory boards within the G1000, but that did not remedy the problem.

75. Eventually, after several hours of troubleshooting involving Hitachi engineers from around the world, Hitachi determined that the fiber optic cables in

the Data Controllers were the likely cause of the outage and decided to replace all sixteen (16) fiber optic cables in the Data Controllers.

76. Hitachi did not have the replacement fiber optic cables at the ZDC as required by the Master Agreement, so it had to obtain them from an identical G1000 unit located in a different data room in the ZDC that had not yet been put into production.

77. It took Hitachi approximately fifteen (15) minutes to remove the fiber optic cables from the spare, non-production G1000 unit. However, when it came time to remove the fiber optic cables from the G1000 unit that had failed, it took Hitachi's engineers approximately forty-five (45) minutes to do so because they were so tangled that a Hitachi engineer referred to them as a "rat's nest." This was the same "rat's nest" that Mr. McDowell had observed on November 1, 2017 and had reported to his superior at Hitachi, Mr. Schiff.

78. The Storage Disk Array and other dependent systems were brought back online at approximately 7:00 a.m. the next morning, fifteen (15) hours after the outage began. It was not until February 26, 2018, nearly four days after the outage began, that all of the data applications associated with the outage were incrementally recovered.

79. As a direct and proximate result of the outage that was caused by Hitachi's willful and wanton conduct, BB&T incurred substantial damages from lost

fee revenues, expenses incurred to compensate affected customers, and numerous other categories of harm.

**Hitachi Affirmatively Concealed Potential Manufacturing Defects in the
Fiber-Optic Cables from BB&T**

80. In answers to interrogatories served during the course of discovery in this matter, Hitachi disclosed for the first time that there may also have been manufacturing defects in the fiber-optic cables in the G1000:

Hitachi determined that lasers in a batch of cables containing optical fibers it had received and deployed with certain storage arrays were manufactured incorrectly. In particular, it was determined that an inadequate amount of ion had been injected during manufacture into a mirror layer of these vertical-cavity surface-emitting lasers. It was further determined that this could cause a non-uniform electric current in these lasers, which could cause greater-than-expected electronic jitter and bit error rates.

BB&T is informed and believes, and on that basis alleges, that these known defects can ultimately degrade the reliability and capacity of the fiber-optic cables.

81. To date, Hitachi has not affirmatively averred that any of the fiber-optic cables installed in the G1000 at the ZDC contained this defect, and it contends that it “cannot confirm whether the cables deployed at the ZDC on or about February 22, 2018 included cables from manufacturing lots that indicated a slightly higher failure rate.”

82. Nevertheless, Hitachi was aware of this potential defect as early as October 12, 2017 (over four months before the outage at the ZDC), and Hitachi

consciously chose not to inform BB&T (or its other customers) about these defects in order to avoid customer concerns over bad cables.

83. Hitachi also made no attempt to test or replace any of the potentially defective fiber-optic cables in the G1000s in the ZDC in the months leading up to the outage that occurred on February 22, 2018. This decision displays an utter disregard for the consequences of Hitachi's actions – especially because Hitachi knew that BB&T's G1000 had been experiencing extraordinary failure rates since it was installed; it knew (since at least November 1, 2017) that the cables in the G1000 had been improperly installed and crimped; and it knew that this manufacturing defect existed and was impacting many of cables installed in its customers' G1000 units around the world.

84. Even after the outage, Hitachi did not inform BB&T or its other customers of this potential cable defect. Rather than disclosing the issue to its customers, Hitachi – together with related entities, Hitachi, Ltd., and IT Pro, a division of Hitachi, Ltd. – chose to [REDACTED]

[REDACTED] and directed its employees [REDACTED]

[REDACTED]. Indeed, on the night of the outage, Hitachi's engineering group asked Hitachi's technicians who were on-site at the ZDC [REDACTED]

[REDACTED]

Count One
(Breach of Contract)

85. BB&T incorporates by reference all prior paragraphs of the Complaint as if fully restated herein.

86. Hitachi expressly warranted that the Storage Disk Array would be free from defects and would operate and conform to the Master Agreement, its applicable published specifications, general industry standards, and all applicable laws and standards.

87. Hitachi also expressly warranted that all installation and maintenance services would be performed in a prompt, diligent, professional and workmanlike manner by competent professionals who possess the proper degree of skill, care, training, experience, and background that is required by current good and sound professional procedures and practices in accordance with industry standards.

88. Hitachi materially breached the Master Agreement in at least the following ways:

A. Hitachi installed the Storage Disk Array, and in particular the fiber-optic cables attached to the Data Controllers, improperly and with willful and wanton disregard for applicable published specifications and

general industry standards for the installation of such equipment. Hitachi's conscious indifference to the consequences of its actions resulted in the excessive bending and crimping of some or all of the fiber-optic cables and/or the installation of cables known to be defective with a high rate of failure, which caused the system failures that led to the complete shutdown of the ZDC on February 22, 2018.

B. Hitachi performed insufficient performance testing when it installed and commissioned the G1000. Any basic post-installation testing and visual inspection by Hitachi would have revealed to Hitachi the “rat’s nest” of fiber-optic cables that caused the catastrophic outage of the G1000 on February 22, 2018. Hitachi also did nothing to confirm whether the fiber-optic cables installed in the G1000 suffered from the known defect previously identified by Hitachi, or to replace the installed cables with alternatives that did not suffer from the same known manufacturing defect. By failing to conduct this minimum level of performance testing when it installed the G1000, Hitachi failed to deliver installation and maintenance services that were performed in a prompt, diligent, professional and workmanlike manner by competent professionals who possessed the proper degree of skill, care, training, experience, and background that is required by current good and

sound professional procedures and practices in accordance with industry standards.

C. Hitachi ignored the express warning that its own engineer provided on or about November 1, 2017 about the improper installation of the fiber-optic cables in the Data Controllers. By failing to inspect and/or replace all of the fiber-optic cables in the Data Controllers despite actual knowledge that they had been installed improperly, Hitachi failed to deliver maintenance services that were performed in a prompt, diligent, professional and workmanlike manner by competent professionals who possessed the proper degree of skill, care, training, experience, and background that is required by current good and sound professional procedures and practices in accordance with industry standards.

D. Hitachi's Hi-Track System improperly coded the alert for the February 12, 2018 incident as only "Moderate" rather than "High" or "Critical", as required by the Master Agreement.

E. Hitachi willfully and wantonly ignored the Hi-Track System alert that was issued on February 12, 2018 and never sent an engineer to fix the reported failure. Rather than having an engineer on site with the required parts within four hours, Hitachi ignored the problem for ten days, by which time the entire Storage Disk Array failed. By failing to respond to the

February 12, 2018 Hi-Track System alert, Hitachi failed to deliver maintenance services that were performed in a prompt, diligent, professional and workmanlike manner by competent professionals who possessed the proper degree of skill, care, training, experience, and background that is required by current good and sound professional procedures and practices in accordance with industry standards.

F. Hitachi failed to have replacement parts available at the ZDC within four hours after the hardware failure that occurred on February 22, 2018, that caused the catastrophic outage at the ZDC. This failure was in direct breach of Hitachi's obligations under the Master Agreement to provide maintenance services within four hours after being notified of the catastrophic hardware failure within the ZDC, to have replacement parts available by the next business day, and to deliver maintenance services that were performed in a prompt, diligent, professional and workmanlike manner by competent professionals who possessed the proper degree of skill, care, training, experience, and background that is required by current good and sound professional procedures and practices in accordance with industry standards.

89. As a direct and proximate result of Hitachi's repeated, material, willful and wonton breaches of contract, BB&T suffered damages in an amount to be proven at trial, but substantially in excess of \$75,000.

Count Two
(Unfair and Deceptive Trade Practices)

90. BB&T incorporates by reference all prior paragraphs of the Complaint as if fully restated herein.

91. Hitachi's actions and inactions as described herein – including but not limited to its intentional concealment from BB&T of the fact that the fiber optic cables attached to the Data Controllers in the G1000 had been installed improperly, and that they may also have been manufactured with a known defect – were unethical and unscrupulous acts that were in or affecting commerce.

92. Hitachi's actions and inactions as described herein constitute unfair or deceptive acts or practices in violation of N.C. Gen. Stat. § 75-1.1, *et seq.*

93. As a direct and proximate result of Hitachi's unfair or deceptive acts or practices, BB&T suffered damages in an amount to be proven at trial, but substantially in excess of \$75,000.

Count Three
(Gross Professional Negligence)

94. BB&T incorporates by reference all prior paragraphs of the Complaint as if fully restated herein.

95. Hitachi is engaged in a skilled profession that requires the application of highly specialized computer science engineering knowledge and technical acumen.

96. Hitachi has a duty to conform to a certain standard of conduct in the exercise of its professional obligations. Specifically, Hitachi has a duty to exercise the proper degree of skill, care, training, experience, and background that is required by current good and sound professional procedures and practices in accordance with standards in the computer science engineering field.

97. Hitachi's actions and inactions, included by not limited to the following, represent a gross departure from these professional standards of care required of Hitachi:

A. Hitachi grossly departed from applicable standards of care when it installed the fiber optic cables in the Data Controllers in the G1000. By wadding up the slack in the cables into a "rat's nest" and shoving it into the cable channel in the Data Controllers and on the floor at the back of the G1000 cabinet, Hitachi acted recklessly, wantonly, and with intentional indifference to the inevitable consequences of its actions.

B. Hitachi grossly departed from applicable standards of care by disregarding Paul McDowell's express, unequivocal warning on or about November 1, 2017 that the fiber optic cables in the Data Controllers had been installed improperly. Mr. McDowell warned his superior at Hitachi, Mr. Schiff, that the improper installation of the fiber optic cables could be a source of the problems that BB&T was experiencing with the Storage Disk Array.

He even texted Mr. Schiff a picture of the fiber optic cables in question. Hitachi not only intentionally turned a blind eye to Mr. McDowell's warning, it concealed the truth from BB&T in subsequent weekly operations meetings. This departure from applicable standards of care was particularly egregious because Hitachi knew that a manufacturing defect was impacting some unknown number of fiber-optic cables installed in many of its customers' G1000 units at the time.

C. Hitachi grossly departed from applicable standards of care when it willfully and wantonly disregarded the Hi-Track System alert on February 12, 2018 and failed to send an engineer to address the critical Logical path blockade on data cache 2CD that resulted in a single point of failure. This alert was miscoded as only a "Moderate" alert, but regardless of that error Hitachi was obligated to respond within four hours with the necessary replacement parts to fix the problem. Hitachi did nothing. The Logical path blockade remained unresolved for ten days, at which point the second data cache card pathway also failed, shutting down the ZDC and effectively shutting down BB&T for approximately fifteen (15) hours.

98. Hitachi's grossly negligent actions and omissions were done wantonly, and with a complete and conscious disregard for applicable professional standards of care and for the foreseeable consequences of its conduct.

99. As a direct and proximate result of Hitachi's gross professional negligence, BB&T suffered damages in an amount to be proven at trial, but substantially in excess of \$75,000.

100. As a result of Hitachi's willful and wanton conduct, and because Hitachi's officers, directors and/or managers condoned the willful and wanton conduct of Hitachi's employees, agents and other representatives, as described herein, BB&T also is entitled to recover punitive damages pursuant to N.C. Gen. Stat. Chapter 1D.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff, having complained of Defendant, respectfully prays this Court for a judgment in an amount to be proven at trial, but substantially in excess of \$75,000.00 against Defendant as follows:

1. For an award of compensatory damages against Defendant, along with pre-judgment interest;
2. For an award of punitive damages against Defendant, pursuant to N.C. Gen. Stat. Chapter 1D;
3. For an award of treble damages against Defendant pursuant to N.C. Gen. Stat. § 75-16;
4. For the costs of this action, including reasonable attorneys' fees as permitted by N.C. Gen. Stat. § 75-16.1, to be taxed to Defendant; and

5. For such other and further relief as the Court deems just and proper.

A jury trial is hereby demanded for all triable issues in this case.

Dated: September 3, 2021

/s/ Matthew P. McGuire
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Counsel for Plaintiff
Branch Banking and Trust Company

CERTIFICATE OF SERVICE

I hereby certify that on September 3, 2021, I electronically filed the foregoing document using the Court's CM/ECF system, which will effectuate service upon all counsel of record.

/s/ Matthew P. McGuire

Matthew P. McGuire

N.C. State Bar No. 20048

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